**DSA LAB**

**Lab Assignment number 16**

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**Aim:** Implementation of Binary Search

**Program:**

#include <stdio.h>

/\*Array to store the list\*/

int array[100];

/\*Function to perform Binary Search\*/

void binary\_search(int n, int search)

{

int first ,last, middle;

first = 0;

last = n - 1;

middle = (first+last)/2;

while (first <= last)

{

if (array[middle] < search)

{

first = middle + 1;

}

else if (array[middle] == search)

{

printf("%d found at location %d.\n", search, middle+1);

break;

}

else

{

last = middle - 1;

}

middle = (first + last)/2;

}

if (first > last)

{

printf("Not found! %d is not present in the list.\n", search);

}

}

void main()

{

int c,n,search;

printf("BINARY SEARCH\n");

printf("Enter number of elements in list : ");

scanf("%d", &n);

printf("Enter %d integers\n", n);

/\*Taking the inputs\*/

for (c = 0; c < n; c++)

{

scanf("%d", &array[c]);

}

printf("Enter element to search : ");

scanf("%d", &search);

binary\_search(n,search);

}

**Output:**

